



Summer Bobwhite Quail Brood Survey - 2017

A sighting survey for bobwhite quail (*Colinus virginianus*) broods was conducted for the 24th consecutive year during the summer of 2017. The quail brood survey was again conducted in conjunction with the summer turkey brood survey.

Past survey cooperators and additional potential cooperators were provided with data forms and requested to record sightings of turkeys and quail during the period July 1, 2016 through August 31, 2017. Cooperators included, but were not limited to, SCDNR Conservation Officers and Wildlife Section staff, Natural Resources Conservation Service (NRCS) staff, foresters, and plantation managers.

Several assumptions had to be made in compiling the data due to variations in reporting. These assumptions are: (1) groups of 1-4 birds not identified to sex and age were assumed to be adults, (2) groups of birds of 5 or greater were assumed to be a mated pair of adults with the remainder being juveniles, (3) when a numerical range for number of birds was given, the median was used (Eg: 8-12=10), and (4) if no adult quail were observed with a brood, one adult was assumed present.

Results were compiled from 302 observations of quail during the 2017 survey period (Table 1), up from 128 in 2016. The Southern Coastal Plain region reported the greatest number of quail observations and brood sightings (Table 1). Age ratio (juveniles per adult) increased in all regions except the Northern Coastal Plain (Table 2), with the Southern Coastal Plain having the highest age ratio of the four regions (Table 3). In addition, the percentage of adults without chicks was lowest in the Southern Coastal Plain (Table 3). Statewide, the age ratio of 2.1 juveniles per adult was the same as the age ratio detected in 2016 with average brood size (8.4) increasing from 8.1 in 2016.

Statewide, fifty-three percent (304/576) of adult quail were observed without chicks, down from fifty-eight percent in the 2016 survey. Also, the average brood size increased slightly from 2016 and the age ratio remained the same (Table 4). Total numbers of adults and chicks observed increased substantially during 2017, probably from increased sampling effort in the survey. Collectively, these indices suggest that total reproductive output during the survey period was greater in 2017 than in 2016. It should be noted that while the 2017 survey did indicate higher nesting success than the prior year, statewide reproduction was still slightly lower than the ten-year average.

Figure 1. Physiographic regions used in the South Carolina Summer Bobwhite Quail Brood Survey, 2017. Number of broods sighted is in parentheses.

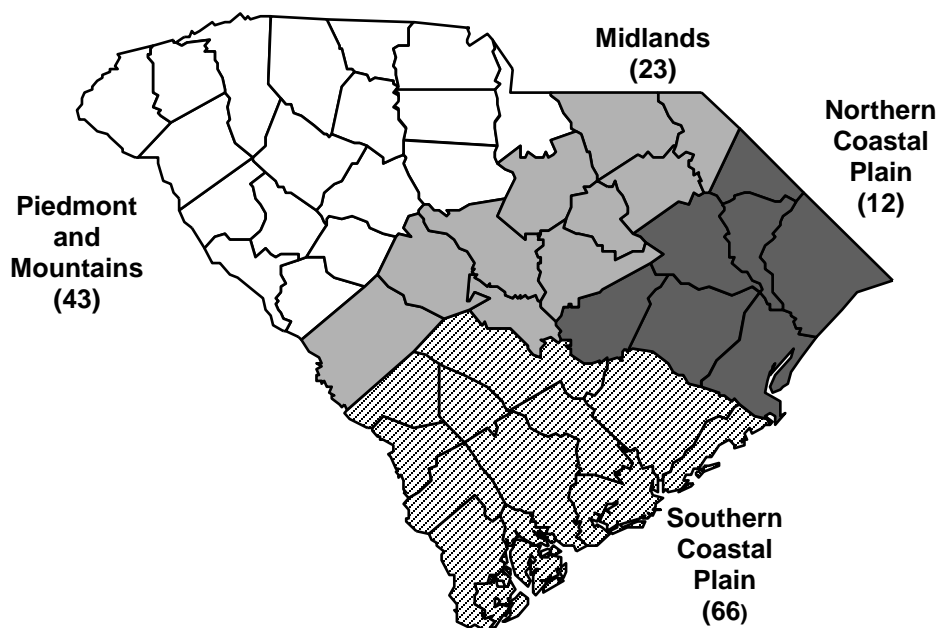


Table 1. Results of the South Carolina Summer Bobwhite Quail Brood Survey by Region, 2017.

Physiographic Region	Observations	Broods Sighted	Chicks	Adults	Total Quail
Piedmont & Mountains	87	43	332	166	498
Midlands	68	23	133	125	258
Northern Coastal Plain	39	12	81	77	158
Southern Coastal Plain	108	66	658	208	866
2017 Totals	302	144	1204	567	1780

Table 2. Bobwhite quail recruitment data from South Carolina Summer Bobwhite Quail Brood Survey, 2013 - 2017

Region	Year	Average Brood Size	Age Ratio (Juveniles / Adults)
Piedmont & Mountains	2013	8.4	1.6
	2014	8.0	2.1
	2015	7.3	2.2
	2016	8.1	1.7
	2017	7.7	2.0
Midlands	2013	6.1	1.5
	2014	5.9	1.0
	2015	4.9	1.5
	2016	6.4	1.0
	2017	5.8	1.1
Northern Coastal Plain	2013	8.1	3.7
	2014	6.5	1.5
	2015	7.5	2.7
	2016	9.8	3.2
	2017	6.8	1.1
Southern Coastal Plain	2013	8.2	2.5
	2014	7.5	1.3
	2015	6.0	1.6
	2016	8.0	2.2
	2017	10.0	3.3
Statewide	2013	7.9	2.5
	2014	7.2	1.5
	2015	6.3	1.9
	2016	8.1	2.1
	2017	8.4	2.1

Table 3. Summary of reproductive data for 2017 South Carolina Summer Bobwhite Quail Brood Survey by region.

Region	Adults w/Chicks	Adults w/o Chicks (%)	No. Chicks	Avg. Brood Size	Age Ratio
Piedmont and Mountains	20	53 (73)	121	8.1	1.7
Midlands	10	36 (78)	45	6.4	1.0
Northern Coastal	17	23 (58)	127	9.8	3.2
Southern Coastal	84	66 (44)	694	8.0	2.2
Statewide	131	178 (58)	963	8.1	2.1

Table 4. South Carolina Summer Bobwhite Quail Brood Survey reproductive data 2008 - 2017.

Region	Adults w/Chicks	Adults w/o Chicks (%)	No. Chicks	Avg. Brood Size	Age Ratio
2008	315	322 (51)	1,769	9.2	2.9
2009	274	399 (59)	2,367	9.8	3.7
2010	355	541 (60)	1,575	8.6	2.3
2011	200	428 (68)	1,695	8.6	1.9
2012	195	158 (45)	1,348	8.0	2.2
2013	139	148 (52)	1,137	9.2	3.2
2014	81	163 (67)	715	7.9	2.5
2015	145	160 (52)	366	7.2	1.5
2016	131	160 (58)	963	8.1	2.1
2017	272	304 (53)	1,204	8.4	2.1
10 -Year Average	215	278 (56)	1,314	8.5	2.7